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RETURN MIGRATION AND ENTREPRENEURSHIP: AN IV APPROACH

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# 1 Introductory Framework

## 1.1 Introduction

Business creation is a critical process in a market economy. As systematized by Wennekers and Thurik (1999), besides being a source of employment and physical capacity, it contributes to improve market efficiency through effective or potential competition, and it also prompts innovation by exploring new market spaces. Thus, the study of entrepreneurship is important for economic growth and development.

Nevertheless, developing countries have higher rates of entrepreneurship than developed economies, which could look counterintuitive. Banerjee et al. (2011) suggest that it is due to the fact that most of the entrepreneurs in developing nations are probably forced into that occupation, acting in the informal sector. Indeed, as shown in the report by WBCSD and SNV (2007), the unofficial labor market varies from an estimated 4% – 6% in developed countries to over 50% in developing economies. Moreover, it is almost certain that forced entrepreneurs do not have the motivation, ambition and skills that formal entrepreneurs have. As a result, despite not undervaluing the role of this forced/survival entrepreneurship on poverty reduction, it is likely not to be contributing to economic development as formal entrepreneurship.

Migration may be a possible source of formal entrepreneurs, given the experience and skills that are acquired when living and working abroad. Migrants may learn and be inspired by other entrepreneurs in the host country, thus getting the capacities and motivation to be entrepreneurs back home. They may also create important business networks, save the capital to invest

and also discover opportunities that can be replicated in their home country.

As a result, the role of this research is to study the relation between migration and business capabilities. Initially, one will analyze whether migration contributes to foster business creation. In addition, entrepreneurship will be differentiated in an attempt to understand the contribution of migration on formal, rather than forced entrepreneurship. In order to do so, one will use instrumental variables to address the identification issues related with the migration experience.

This study is organized as follows. Section 1 will review the literature on the relation between business creation and economic development, as well as how return migration may be a source of entrepreneurs. Moreover, it will be followed by a brief introduction to the country of Cape Verde, where the empirical analysis is based. Section 2 is the empirical part of the research, providing the explanation of the identification problem and how it will be addressed. This section will also describe the data and present the estimation results. Finally, section 3 will explain and discuss how the achieved findings contribute to the literature on this topic and will conclude with possible policy recommendations.

## **1.2 Literature Review**

### **1.2.1 Entrepreneurship and Development**

Several studies analyze the importance of entrepreneurship for regional development. The creation of new firms contributes to generate employment and new capacities into an economy, and is also a critical element of the

market process. As shown in Boeri and Cramer (1992) only a fraction of new businesses will survive for a long period due to competition and market selection, and those which do survive may displace less efficient incumbents.

Fritsch (2008) stresses that at a constant output level, this market selection process should lead to a decrease of labor and capital usage, because fewer resources are needed in order to produce a given amount of goods and services at a higher productivity level. However, as he reckons, there are several channels through which the entry of new businesses may stimulate growth on the supply-side of the market. Indeed, in the spirit of the creative destruction process proposed by Schumpeter (1942), entrepreneurs accelerate structural change. In this case, less efficient incumbents are substituted by newcomers. In addition, the entry or simply threat of entry by entrepreneurs may also secure efficiency and stimulate productivity by the incumbents (Baumol et al., 1982). With the risk of being displaced, these are thus disciplined in order to maintain their positions.

Furthermore, entrepreneurs contribute to foster innovation, particularly by creating new markets (Acs and Audretsch, 1990; Audretsch, 1995; Baumol, 2004). The reason why a new firm is more likely to bring a radical innovation than an incumbent, as posed by Arrow (1962), is because the former has higher incentives to do so. Incumbents are more interested in exploiting the profits of their current activities rather than generating new products and processes that may contest their current ones. While this would only have a profit replacement effect, the profits generated by new firms are brand new. Hence, as claimed in Audretsch (1995) entrepreneurs will tend to focus on searching opportunities for radical innovations, as new ideas are the

only or the most promising possibility to succeed in establishing a new business. Incumbents may also have heavier organizational structures, which are less prone to creativity and innovation. In opposition, new firms have leaner structures which in turn makes them more flexible and capable to innovate.

Finally, entrepreneurs contribute to a greater variety of products and problem solutions. By introducing differentiated products, the greater variety implies a higher probability of finding a supply with a better match for customer preferences. Increased variety due to new supplies may stimulate further specialization of labor as well as follow-up innovations and thus generate significant impulses for economic development.

These factors play a critical role in the development process of a market economy. As such, in the early post-war period, researchers attached great importance to fostering entrepreneurship in developing countries (Parker, 2009). Indeed, in Lewis (1955), the author highlights that economic growth is bound to slow unless there is an adequate supply of entrepreneurs searching for new ideas, and willing to take the risk of introducing them.

However, this initial enthusiasm diminished in the 1970's, because developing countries had already markedly higher self-employment rates than developed countries (Leff, 1979). Therefore, despite not ignoring entrepreneurs, development economists started questioning the causality between entrepreneurship and development. In fact, Hessels et al. (2008) argue that new business creation and resource coordination may not necessarily foster economic growth, and may actually be the result of it. Also, the type of entrepreneurship and the nature of the innovation that is introduced will have heterogeneous effects on development.

Besides, as claimed by Bennett (2010), in spite of the high rates of entrepreneurship in developing countries, the majority of the entrepreneurs act in the informal or survival sector. This form of survival entrepreneurship, although contributing to poverty alleviation (see e.g., Tamvada, 2010; Berner et al., 2012), is not likely to be a driver of economic growth (Naudé, 2011). In fact, on the data used in Banerjee et al. (2011) across 18 countries, the majority of the businesses owned by poor people had no paid employees, no physical space, neither any machine or vehicle. What is more, in the cases when they were revisited three years later, most of them were no longer in activity, or were stagnant. Another characteristic of these businesses is that they were barely profitable. Even before deducting the value of the entrepreneurs' labor, a considerable amount of firms reported losses. This low profitability and incapacity to grow a business explains why survival entrepreneurship is probably not essential for economic development.

The most relevant factors affecting the capacity for these survival entrepreneurs to succeed are probably financial and regulatory. Still, even in the absence of these constraints, survival entrepreneurs are also likely to lack the skills. According to several surveys conducted in developing countries around the world, Banerjee et al. (2011) found that there is a predominant preference for stable jobs. When respondents were asked what they aspire for their children, vast majority wanted them to be e.g., public servants, professors, nurses or employees at private firms. As a result, survival entrepreneurs are most certainly forced into this occupation, having absolutely no ambition or vocation for it.

In the view of Baumol et al. (2007), the entrepreneurs that are associated



with growth are the ones that pursue radical innovations. In the other hand, the ones acting in the survival sector are more likely to pursue replicative innovations, which are less relevant. As a result, it is more important to study the determinants of formal, rather than of survival entrepreneurship. In addition, the correction of market failures and institutional weaknesses are also of critical analysis, as these affect the source of opportunities to be explored by potential entrepreneurs. This reasoning gave light to the concept of institutional entrepreneur. It is defined by Li et al. (2006) as the innovative person who starts or expand his or her business venture and in the process helps to destroy the prevailing non-market institutions in order for the business to be successful. These entrepreneurs may thus shape institutions.

In summary, formal entrepreneurs may contribute significantly more to an economy by increasing its capacity, generating more jobs, stimulating innovation and possibly shaping institutions. These entrepreneurs are more ambitious, inspired and motivated to be successful, so they are more likely to have a vocation and higher ability for their occupation. As they are certainly a minority within the existing entrepreneurs, and thus difficult to identify, the next section will address how migration may be a possible source of formal entrepreneurs.

### **1.2.2 Entrepreneurship and Migration**

There are strong evidences that immigrants tend to be more entrepreneurial than natives at the host country (see e.g., Borjas, 1986; Lofstrom, 2004; Schuetze and Antecol, 2007). While the reasons behind this fact are of current debate, another relevant question is whether migrants are also more

entrepreneurial when they return to their home country. Arguably, due to their experience abroad, they may acquire the initial capital, skills, inspiration and networks that possibly make them more capable of being formal entrepreneurs. By adopting the best practices developed in the host country they may successfully explore business opportunities back home.

In spite of being one of the most understudied aspect of international migration (Docquier and Rapoport, 2012), there is already a consistent set of literature analyzing return migration, namely its impact on entrepreneurship.

The first block of research was initially focused in assessing the role of savings acquired abroad on overcoming financial constraints back in the home country. Dustmann and Kirchkamp (2002) explore a survey of Turkish returnees from Germany, providing evidence that savings of returning migrants may be an important source of start-up capital for micro-enterprises. Besides, higher earnings in the host country, in conjunction with planned entrepreneurship after return, reduce migration duration. The decision to open a business is probably endogenous as the aspiration to be an entrepreneur in the future may affect the migration duration. This is why the authors instrument the decision to become self-employed with previous self-employment experience, as this should reduce the organizational and psychological costs of becoming an entrepreneur. Former entrepreneurs are likely to be familiar with the administrative processes, as well as with the initial difficulties associated with starting a business. In line with this result, Mesnard (2004) compares employed and self-employed return migrants in Tunisia. She finds that migrants who are self-employed after returning accumulated more savings abroad than employed return migrants, thus showing that accumulated

savings are an important factor. There was a particular concern with the endogeneity of the decision to save. Due to structural reasons linked with the simultaneous decisions of saving and starting a business, as well as to unobserved heterogeneity, the decision to save was probably endogenous. Thus, the logarithm of income and the age of the return migrants were used as identifying instruments for savings.

While these studies limit their analysis only to return migrants, Wahba and Zenou (2009) also consider non-migrants. As a result, they assess whether or not returnees are more entrepreneurial than non-migrants. Yet, temporary migration and entrepreneurship may be endogenously determined decisions. Indeed, migration may increase the probability of entrepreneurship, but it can also be that individuals planning to be entrepreneurs are more likely to migrate. In result, they instrument the migration decision with the share of migrants in the total population in the sub-district of origin of each individual. This instrument, representing migration networks, is the most commonly used in the migration literature. After discussing the suitability of the instrument, they find that controlling for the return decision, a returnee is more likely to become an entrepreneur than a non-migrant. Moreover, the authors argue that despite losing social networks in the home country while they are abroad, savings and human capital accumulation acquired overseas over compensate for this loss.

A key element that was missing from the exposed literature was the distinction between different types of self-employment. As explained in section 1.2.1, most of the entrepreneurs in developing countries are probably forced into that occupation, meaning they do not have the same characteristics and

capacities as formal entrepreneurs. This distinction is important since forced entrepreneurs are likely to have a weaker direct impact on growth compared to formal entrepreneurs.

In this line of thought, by focusing on a data of micro-enterprises from West Africa, De Vreyer et al. (2010) also use migration networks as an instrument to estimate the effect of return migration on firms' value-added. They find that when the entrepreneur is a return migrant the value-added of his or her firm is significantly higher, but only if the host country is part of the OECD. Hence, their result suggests that having a Western work experience gives a productive advantage to micro-entrepreneurs. Arguably, this advantage could derive from enhanced entrepreneurial skills or from specific knowledge acquired abroad.

In Piracha and Vadean (2010), the authors explore micro-data from Albania to take a further step on disentangling the different types of entrepreneurship. They explicitly differentiate between the propensities of returnees to become self-employed as forced entrepreneurs, denoted own account workers (i.e., without having any paid employees), and as formal entrepreneurs (i.e., owners of firms with paid employees). Again, migration networks are also used to take into account the possible sample selection into return migration. They find that without the migration experience, returnees would have been more likely to be forced entrepreneurs and less likely to be entrepreneurs, thus giving a lower contribution to employment creation.

Going in the same direction as the previous study, Marchetta (2012) uses data from Egypt to analyze a necessary precondition for a lasting positive effect of the entrepreneurial activities run by returnees, namely their sur-

vival over time. As such, she assesses whether the migration experience of an entrepreneur plays a role in explaining the chances of survival of his or her firm. Likewise, return migrants can positively or negatively self-select with respect to unobservables that influence the chances of survival of their entrepreneurial activities, as e.g., talent or risk-preferences. In this case, the author uses two instruments separately for the return decision. The first is the population growth rate in the year of birth of the entrepreneur, and the second is the real price of crude oil when the entrepreneur was 21 years old. She argues that demographic factors influence considerably the scale of migration flows, while the use of the second instrument takes advantage of the fact that most Egyptian migrants opt for oil-producing countries. In both specifications her results show that returnees' businesses enjoy a significantly higher probability of surviving over time with respect to stayers.

Except for the articles that focus solely on returnees, all the cited studies analyze the impact of the decision to return. This decision is captured with a dummy variable that assumes the value of one when an individual is a returnee, and zero otherwise. As it will be explained in section 2.1.2 there may be a self-selection issue on the decision to go abroad, but also on the decision to return. That is, within those who migrated, the ones that return may self-select in terms of observable and unobservable characteristics. In spite of this fact, the previous articles only use one instrument for the decision to return. In fact, they explicitly address the self-selection on the decision to migrate, but ignore the possible self-selection into the subsequent inward movement.

In Batista et al. (2012b) this issue is specifically taken into account. The

authors study the effects of return migration on entrepreneurship in Mozambique, using instruments in one of their frameworks to control for both the outward and inward self-selection effects. Hence, they use proximity to rebel strongholds in times of war to instrument the decision to leave. Besides, in order to instrument the decision to return they use changes in GDP per capita and nominal exchange rates, as well as the distance between survey districts and migrant destinations. In result, the authors find returnees to be significantly more entrepreneurial than stayers, due to the migration experience.

This current research aims at contributing to the literature by following the same methodology as in Batista et al. (2012b), that is, controlling for both possible self-selection effects. Moreover, one will attempt to differentiate between different types of entrepreneurship as in Piracha and Vadean (2010) and Marchetta (2012), by analyzing employment and investment decisions. In order to do so an household survey conducted in Cape Verde is explored. This survey is described in section 2.2.1.

### **1.3 Cape Verde: Introduction to the Country**

One will now proceed to a brief description of Cape Verde, with special emphasis on its migration history. Cape Verde is a small archipelago composed by 10 islands located in Africa at the North Atlantic Ocean (see appendix 1 for a map of the archipelago). The country received its independence from Portugal in 1975 and was ruled in a one-party system until 1990, but it has been a stable democracy since 1991. Furthermore, with 491875 inhabitants according to its 2010 census, it has a total area of 4030 square kilometers, of

which only 10% is arable. Therefore, the country is seriously dependent on food imports. With few natural resources and suffering from poor rainfalls and limited fresh water, its economy is service-oriented with a strong emphasis on tourism, which accounts for more than 65% of GDP (Country-Watch, 2013). Cape Verde graduated from the United Nations list of least developed countries by the year of 2007 and, with a GDP of \$1827 billion in 2012, it is considered to be a lower middle income country by the World Bank.

There is a longstanding migration tradition in Cape Verde. Docquier et al. (2008) estimate a migration rate of 30.4% in 2000, which is the highest rate in Africa. What initially provoked or at least decisively influenced this phenomenon was the frequent occurrence of tragic natural disasters that have punctuated the history of these islands. As it is explained in Carreira and Fyfe (1982), their arid climate, lack of arable land and their orographic system of sharp forms are all detrimental for agriculture. Moreover, with low and irregular rainfalls, droughts are frequent and prolonged. This prevents plants from seeding and growing, so farming declines and pastures dry up making cattle die of hunger. As a result, this inevitable irregularity of the rains caused several situations of endemic famine, leading to catastrophic levels of mortality among the population. In “crisis years”, as they are called in Cape Verde, 10% – 30% of the population have died. In addition, occasional heavy rains, easterly winds and the subsequent floods are also a source of economic instability and contribute to further soil erosion. These exogenous factors resulted in a large-scale exodus of people that found in migration the only option to avoid severe hardship.

## 2 Empirics

### 2.1 Estimation Methods

The econometric framework supporting the analysis of return migration and its impact on entrepreneurship will be explored in this section along with its identification and estimation strategy. Besides the choice to open a business, other business related variables will be analyzed, as employment creation and investment decisions, all at the household level. Therefore one will use the expression business skills to denote a skillful individual at a given household. Arguably, with all other factors held constant, a household with an individual who has better business skills is more likely to have a business and scale it, generating more jobs and investment.

#### 2.1.1 Econometric framework

In line with Heckman and Robb Jr (1985) and Imbens and Angrist (1994), two possible business skills outcomes were considered:

$$B_{1i} \text{ if } R_i = 1$$

$$B_{0i} \text{ if } R_i = 0$$

Where  $B_{1i}$  represents the business skills outcome for an individual that migrated and returned ( $R_i = 1$ ) and  $B_{0i}$  for an individual without that experience ( $R_i = 0$ ). It is not possible to simultaneously observe the actual and counterfactual outcome for each individual in the sample. That is, it is not possible to compare how the migration experience affected the business capabilities of a given individual compared to the situation where the same



individual did not experience it. From the data it is only possible to observe  $B_{1i}$ , which is the business skills outcome if an individual went through the migration experience, or  $B_{0i}$  if he or she did not. However, the individual causal effect of returning from abroad ( $B_{1i} - B_{0i}$ ) cannot be directly measured. One must then estimate the average difference in business skills outcomes between those with and without the international experience, that can be described as:

$$\begin{aligned}
& E[B_i|R_i = 1] - E[B_i|R_i = 0] = \\
& = E[B_{1i}|R_i = 1] - E[B_{0i}|R_i = 1] + E[B_{0i}|R_i = 1] - E[B_{0i}|R_i = 0] = \\
& = E[B_{1i} - B_{0i}|R_i = 1] + E[B_{0i}|R_i = 1] - E[B_{0i}|R_i = 0] \tag{1}
\end{aligned}$$

Equation 1 contains the Average Treatment Effect (ATE) given by  $E[B_{1i} - B_{0i}|R_i = 1]$ , which isolates the causal effect of the migration experience on the business skills outcome. However, it also contains  $E[B_{0i}|R_i = 1] - E[B_{0i}|R_i = 0]$ , which is the selection bias. This bias stresses that the difference in business skills outcomes may accrue from different factors, others than the international experience solely. Hence, differences between households with and without returnees would persist even if these had not had migrated and returned.

As pointed out in Gibson et al. (2009), migrants may self-select in terms of observable as well as unobservable characteristics and several studies show evidences of this fact (see e.g., Akee, 2010; McKenzie et al., 2010; Batista and Umblijs, 2013). For example, an individual may decide to migrate due to unobserved personality traits, as being more adventurous, risk-taker or ambitious. These characteristics are also likely to influence business capabilities,

as being a successful entrepreneur is also associated with them. Due to this positive self-selection, it becomes uncertain whether differences in observed business skills are driven by the migration decision or by the exemplified characteristics. In the other hand, the self-selection may also be negative. Arguably, individuals who are less able may find it more difficult to e.g., find a job in their home country and thus migrate, or, by the same reason, decide to become entrepreneurs (in this case forced entrepreneurs). As a result, the identification strategy needs to take this potential self-selection into account. Finally, given that it may be driven by unobserved characteristics, methods like Ordinary Least Squares (OLS) or matching that only assume selection on observables are likely to be biased.

### 2.1.2 Identification Strategy

There are different possibilities to deal with the selection bias. In an ideal situation individuals would be randomly assigned to a treatment (migrate and return) and control group, such that:

$$R_i \perp (B_{1i}; B_{0i}) \quad (2)$$

This means that there would be no selection effect by construction. Such experiment would allow one to analyze the causal effects of the migration experience on business skills outcomes. In order for condition 2 to hold, individuals would have to be randomly selected to go abroad – the outward movement. Subsequently, within the selected, a new group would have to be randomly chosen to return – the inward movement. The construction of a

framework with no selection effects is only possible after accomplishing this two steps, because both the outward and inward movements may be driven by different observed and unobserved characteristics.

In the absence of such experimental data, this research will make use of instrumental variables (IVs) to explore exogenous variations of the migration decision, with the two-stage least-squares (2SLS) method. In order for an instrument to be used, two conditions must be verified. The first condition measures the instruments' strength. Taking into account the need to address the potential selection effects of both the outward and inward movements, the chosen set of instruments must explain the decision to migrate and the decision to return. The higher the instruments' explanatory power the higher the consistency of the estimator. However, they cannot be correlated with business skills outcomes, which is the second condition. If this condition is not verified, then the instruments are not valid.

The reasoning behind this concept is that by only influencing business skills outcomes through the migration experience channel, then the instruments will provide an exogenous impact on the migration decision. By not being influenced by other factors it is then possible to establish a causal relation between the migration experience and business skills. As a result, two instruments will be proposed: migrant networks and exchange rate variations.

Regarding the first instrument, several economic studies have examined the role of migration networks in developing countries (see e.g., Munshi, 2003; McKenzie and Rapoport, 2010; Wahba and Zenou, 2005). Due to its relevance, most of the articles studying migration and using IVs rely on

current migration networks as an instrument. Indeed, as claimed by Massey (1990), migration dynamics are a “cumulative causation”. Having contacts in a foreign country may facilitate the share of information about living conditions or work possibilities and may also help with the initial integration and cultural shock. This means that by significantly reducing the risks and costs associated with moving, network effects are likely to be an important factor influencing the outward migration movement. Therefore, the first condition is likely to be verified. The fulfillment of the second condition is less straightforward. Indeed, the establishment of a network may be related with variables at a community level which may also be affecting the outcome of interest. As an example, if the network was initiated due to fact that individuals in a given community were influenced by a risk-taking culture, then that is likely to affect individuals’ business skills. Although, as it will be explained, in the case under analysis this problem is less subject to concern. As mentioned in section 1.3 and claimed by Batista et al. (2012a), Cape Verde has a long-standing migration tradition, so the migration networks under consideration were formed in the past (historical networks) and were initially fostered by natural disasters as droughts and floods. Arguably, given the historical dimension and exogeneity of these shocks, the second condition is also likely to be fulfilled as they do not influence the choice to open a business, nor employment or investment decisions. This instrument is taken from the own survey, measuring the proportion of current migrants at the Enumeration Area (EA) level (neighborhood or village).

The second instrument is the variation of the exchange rate at the host country. It aims at addressing the selection effect into the inward move-

ment. A positive variation of the exchange rate (an appreciation) makes migrants become richer in the rest of the world (including in the home country), thereby influencing their return. The first condition is thus likely to be met. Moreover, given the macroeconomic nature of this variable taking place at a foreign country, it is legitimate to consider it does not influence individuals' business capabilities at the home country, in the form of business creation and scale-up activities. This is why macroeconomic shocks are commonly used as sources of exogenous impacts in the migration literature (see e.g., Yang, 2008; McKenzie et al., 2014; Marchetta, 2012). Variation at individual level is achieved the following way: a composite is constructed with the variations of the real effective exchange rates from the host countries and is weighted by the proportion of current migrants at those countries in each EA. For each household, the assigned date is given by the year when the household head turns 35, which is the average age when Cape Verdeans open a business.

### 2.1.3 Estimation Strategy

Following the same framework as in Batista et al. (2012b), the estimated regression will be the following:

$$B_i = \beta_0 + \beta_1 R_i + \beta_2 X_i + u_i \quad (3)$$

In this simple form, the dependent variable  $B_i$  is a proxy for business skills of an individual at a household  $i$ .  $B_i$  will thus assume values for four different variables. The first is business ownership, which assesses whether or not a household has an individual who opened a business, thus it is a direct measure of entrepreneurship. In order to further explore the effects on

the quality of individuals' business skills three other variables will be used reflecting their capacity to scale-up a business. First, employment creation will indicate whether a household has an individual who creates employment positions. Second, investment in initial fixed capital, and third, investment in equipment, will both represent whether a household has an individual who invested in a business. Addressing this quality issue aims at taking into account that some businesses are employing uniquely the business owner and have not involved any investment at all. In these cases the business owners are likely to be forced entrepreneurs without necessarily any better business skills than the rest of the non-entrepreneur population. Finally,  $X_i$  denotes a group of household as well as regional variables that possibly influence business skills, and  $R_i$  represents whether or not a household has a returnee.

With this specification, the coefficient of interest is  $\beta_1$ , which measures the impact of return migration on business skills. This effect can only be interpreted as causal if  $E[B_i|X, R_i = 1] = E[B_i|X, R_i = 0]$ . However, this condition is probably not met because of the selection effect in the outward and inward movement, as explained in section 2.1.1. Then, this originates an endogeneity issue as  $R_i$  is likely to be correlated with the error term [ $corr(R_i, u) \neq 0$ ], thereby biasing the estimation of  $\beta_1$ .

To tackle the endogeneity problem, equation 3 will be estimated instrumenting for the endogenous variable  $R_i$ . The decision to return encompasses both the outward and inward selection effects as only those who migrated in the first place can return. Therefore the chosen set of  $m$  instruments  $z_{ij}$  need to explain both these decisions that are included in  $R_i$ . Consider the

following equation that corresponds to the first stage of the 2SLS:

$$R_i = \delta_0 + \delta_1 B_i + \delta_2 X_i + \theta_1 z_{i1} + \theta_2 z_{i2} + \dots + \theta_m z_{im} + \epsilon_i$$

Here, it must be that at least one coefficient  $\theta_j \neq 0$ . This condition concerns the strength of the instruments, as the higher the correlation between the instruments and the endogenous regressor, the more consistent the estimator will be.

Furthermore, the instruments can only affect the dependent variable solely through its effect on the migration experience  $R_i$ . Hence, in order to fulfill the second condition concerning its validity, the instruments cannot be correlated with other factors that may be explaining the decision to open a business, hire more employees and invest in the firm, meaning that:

$$E(z'_{ij} u_i) = 0$$

As mentioned in section 2.1.2, two instruments will be used ( $m = 2$ ). As both selection effects are present in the observed return decision, then migration networks and exchange rates variations will aim at, respectively, instrument the outward and inward movement self-selection present in  $R_i$ . This process could be performed with only one instrument if it could control for both selection effects simultaneously, however, as discussed in Gibson et al. (2009) it is difficult to find such instruments.

## 2.2 Data Description

### 2.2.1 Household Survey

The empirical analysis will be grounded on a household survey. The survey was conducted in Cape Verde from December 2005 to March 2006 by the

CSAE at the University of Oxford, and used to pursue different research questions (see Vicente, 2010; Batista and Vicente, 2011; Batista et al., 2012a). Its objectives were threefold: analyze changes in perceived corruption in the public services, in the demand for political accountability, and to relate demographic characteristics with migration. It was based on a representative sample of resident households (including both non-migrants and return migrants), and also provides information on a large sample of current migrants. The respondent was an household member aged at least 30 years old who was asked to specify the socio-demographic characteristics for all the household members (including migration spells). There were also questions regarding the economic situation of the household.

### **2.2.2 Descriptive Statistics**

The most relevant variables related with migration and entrepreneurship that were used will now be described. As it can be seen from table 1, migration is extremely common in Cape Verde. More than one third of the surveyed households reported to have a migration experience, which demonstrates how relevant it is for the country.

The explanatory variable of interest indicates that a significant number of households have at least one return migrant, 15%. Besides, 3.34% of the households have both a business and a return migrant, that amounts to 17.56% of the households with a business. In order to disentangle forced/survival entrepreneurship from formal entrepreneurship, proxies for quality will also be explored. As it can also be seen in table 1 a high proportion of business owning households employ absolutely no employees besides the owner. Fur-



Table 1: Households Characteristics: All Households

Variable	Percentage
<b>Migration Experience</b>	
Households with a migration experience	36.61%
Households with at least one return migrant	15.48%
<b>Business Ownership</b>	
Households with at least one business	19.00%
Households with at least one business-owning return migrant	3.34% (17.56%)
Households with a business without employees	12.60% (67.33%)
Households with a business without initial investment	6.49% (34.31%)
Households with a business without equipment investment	10.94% (57.56%)

*Source: Own survey.*

In parenthesis the percentage among households that own a business.

thermore, a significant number neither made no investment at all to start the business, neither invested in machinery or equipment. As being considered forced entrepreneurs, it will be assumed that they have no distinguishable business skills from the rest of the non-entrepreneurs. Consequently, the variables concerning employment and investment will assume the value of 0 both for the forced entrepreneurs as well as for the non-entrepreneurs.

Table 2 shows the main destinations where returnees were. It is possible to see that most of the households with returnees, 41.05%, experienced going to Portugal, followed by 17.89% coming from the US.

In addition, by comparing averages between the households with returnees and the households without, it is possible to confirm some pronounced differences. As reported in table 3, the maximum education achieved by a member of a given household with at least one returnee, as well as the age of

Table 2: Destination Countries: HH with Return Migrants

Country	Percentage	Country	Percentage
Portugal	41.05%	Cuba	1.05%
USA	17.89%	São Tomé e Prncipe	10.53%
Netherlands	11.58%	Angola	2.11%
France	7.37%	Guinea	1.05%
Luxemburg	4.21%	Ivory Coast	1.05%
Italy	1.05%	Switzerland	1.05%

*Source: Own survey.*

Table 3: Years of Education, Age and Business, Mean Values

	(1)	(2)	(1-2)
	HH with returnee	HH with no returnee	Diff
Maximum years of education	11.26	9.71	1.55*** (0.31)
Household head age	59.02	44.83	14.19*** (0.86)
Business ownership	0.22	0.16	0.06** (0.02)
Employment creation	0.10	0.06	0.04** (0.02)
Initial investment	0.15	0.12	0.03 (0.02)
Equipment investment	0.11	0.08	0.03 (0.02)

*Source: Own survey.*

Standard errors in parenthesis \*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

the household head, are higher than in a household with no returnees. These differences are statistically significant at 1% level. Furthermore, with a significance level of 5% they are on average more entrepreneurial and also create

Table 4: Summary Statistics, All Households

Variables	Obs.	Mean	Std. Dev.	Min.	Max.
<b>Dependent variable</b>					
Business Ownership	1079	0.19	0.39	0	1
Employment creation	202	.33	0.47	0	1
Initial investment <sup><math>\psi</math></sup>	204	.66	0.48	0	1
Equipment investment <sup><math>\psi</math></sup>	205	.42	0.50	0	1
<b>Explanatory variable of interest</b>					
Return migrant	1079	0.15	0.36	0	1
<b>Geographic variables</b>					
South	1078	0.69	0.46	0	1
Urban	1078	0.42	0.49	0	1
Average expenditure	1078	0.14	0.05	.06	.30
<b>HH characteristics</b>					
Household education – maximum	1024	10.47	3.84	0	17
Member with foreign studies	1079	0.13	3.84	0	1
Household head age	979	50.41	14.89	17	99
Household size	1079	4.64	2.51	0	17
Car ownership	1003	0.11	0.31	0	1
Property – house or land	1079	0.79	0.41	0	1
Credit constrained	997	0.01	0.08	0	1
Migration duration <sup><math>\psi \psi</math></sup>	160	4.35	8.11	0	36
Remittances receipts	1079	0.30	0.46	0	1
Invest with remittances	1079	0.15	0.36	0	1
Invest with savings	1079	0.15	0.36	0	1
Invest with credit	1079	0.02	0.12	0	1

*Source: Own survey.*

<sup>$\psi$</sup>  Only considering households with at least 1 firm.

<sup>$\psi \psi$</sup>  Only considering households with at least 1 returnees.

more employment opportunities. Regarding their investment decisions, despite presenting higher levels of investment, the difference is not statistically different from 0. However, it is worth noting that the hypothesis that households with no returnees present higher levels of investments is rejected at 10% level for both types.

Finally, the main variables are summarized in table 4. It is possible to see that most of the surveyed households live in southern islands (79%) and predominantly in rural areas (58%). Educational attainment is clearly rather low. The average years of education of the individual with the highest level of schooling in a given household is merely of 3.84 years, even with 13% of the households reporting to have a member with foreign studies.

Moreover, also of importance is the fact that 30% acknowledged to have received remittances. This high proportion contributes to highlight the relevance of migration in Cape Verde. Within those who returned from abroad, the average duration of their experience was of 4.35 years.

The last three variables of table 4 aim at controlling for different sources of finance that might be used to set-up a business. Different origins of capital may have heterogeneous impacts on the effectiveness of the establishment or performance of a firm. As such, 15% of the households revealed to have used savings or remittances as source of finance, while only 2% made use of credit.

## **2.3 Results**

This section will present the estimation results of the empirical model. One will first examine the main variables of interest in each specification and subsequently proceed to an overall analysis of other interesting results.

Table 5: Probability of Owning a Business, OLS and IV Estimates

	(1) OLS	(2) 1 <sup>st</sup> stage 2SLS	(3) 2 <sup>nd</sup> stage 2SLS
Return migrant	0.022 (0.017)		0.368*** (0.118)
Migration duration	-0.001 (0.002)	0.029*** (0.005)	-0.012** (0.005)
Remittances received	-0.023* (0.013)	0.054** (0.024)	-0.044*** (0.016)
Household max. educ	0.002 (0.002)	-0.005* (0.003)	0.003 (0.002)
Household head age	0.001 (0.000)	0.005*** (0.001)	-0.001 (0.001)
Foreign studies	0.043 (0.090)	0.709*** (0.072)	-0.201 (0.134)
Household size	-0.004 (0.004)	-0.001 (0.003)	-0.003 (0.004)
Car ownership	0.061* (0.032)	0.089** (0.035)	0.032 (0.027)
Property	-0.007 (0.023)	0.008 (0.024)	-0.010 (0.025)
Credit constrained	0.100 (0.117)	-0.068** (0.032)	0.118 (0.120)
South	0.048*** (0.017)	-0.002 (0.023)	0.046** (0.018)
Urban	0.024 (0.025)	0.024 (0.023)	0.022 (0.024)
Average expenditure	-0.195 (0.240)	-0.088 (0.243)	-0.183 (0.199)
Migrantion networks		0.347*** (0.059)	
ER IV - composite		0.252** (0.104)	
Constant	0.005 (0.045)		
Observations	942	942	942
Under Ident (P-value)			0.012
Weak Ident (K-P F)			17.324
Hansen J (P-value)			0.901

Robust standard errors in parentheses, clustered at EA level

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ 

Note: Additional partialled out controls

Table 5 reports the results for the probability of business ownership at the household level. The OLS estimates suggests that having a returnee as a household member is positively associated with business ownership, however this relation is not statistically significant. Nevertheless, in the IV specification this relation presents a positive estimate that is significant at 1% level. Hence, the estimation indicates that having a returnee increases the probability of business ownership in 36.8%, all the other factors fixed. Furthermore, the standard-errors in the OLS are always smaller than in the IV approach. Therefore, as the estimate is only significant in the latter specification, it means that the point estimate is substantially higher.

It is also important to analyze the suitability of the chosen instruments. In the first stage, the estimates for both instruments are positive and highly significant, meaning that the first condition is likely to be met. In fact, in the under-identification test, the null hypothesis (where the equation is under-identified) is rejected with an associated p-value of 0.012, meaning that the instruments are relevant when explaining the endogenous variable. Still, if the instruments are only weakly correlated with the endogenous variable, then the 2SLS estimation will be biased towards the OLS. To test whether this is a concern, one computed the Kleibergen-Paap F statistic, which is an alternative to the Cragg-Donald test for robust or cluster options. The K-P F statistic of 17.324 is greater than the Stock and Yogo (2005) critical value of 11.59 for a 15% maximal IV size. Besides, the first stage F is of 27.07 (not reported), consistent with the rule of thumb  $F > 10$ . Finally, the Hansen test for over-identification restriction presents a p-value of 0.901, which does not reject the null hypothesis that the instruments are compatible.

Table 6: Probability of Employment Creation, OLS and IV Estimates

	(1) OLS	(2) 1 <sup>st</sup> stage 2SLS	(3) 2 <sup>nd</sup> stage 2SLS
Return migrant	0.026 (0.016)		0.195** (0.092)
Migration duration	-0.002** (0.001)	0.028*** (0.006)	-0.007** (0.003)
Remittances received	-0.003 (0.008)	0.057** (0.027)	-0.014 (0.011)
Household max. educ	0.002* (0.001)	-0.005* (0.003)	0.003** (0.001)
Household head age	0.000 (0.000)	0.005*** (0.001)	-0.001 (0.001)
Foreign studies	0.092 (0.107)	0.724*** (0.074)	-0.031 (0.107)
Household size	-0.003 (0.003)	-0.002 (0.003)	-0.003 (0.003)
Car ownership	0.047** (0.017)	0.084** (0.039)	0.034** (0.016)
Property	-0.010 (0.015)	0.014 (0.026)	-0.012 (0.015)
Credit constrained	-0.007 (0.007)	-0.067** (0.032)	0.001 (0.010)
South	0.009 (0.011)	0.003 (0.026)	0.008 (0.011)
Urban	0.015 (0.012)	0.032 (0.027)	0.014 (0.011)
Average expenditure	-0.177 (0.107)	-0.180 (0.291)	-0.162* (0.094)
Migrantion networks		0.406*** (0.075)	
ER IV - composite		0.227** (0.109)	
Constant	0.022 (0.027)		
Observations	811	811	811
Under Ident (P-value)			0.019
Weak Ident (K-P F)			14.909
Hansen J (P-value)			0.715

Robust standard errors in parentheses, clustered at EA level

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ 

Note: Additional partialled out controls

The remaining tables aim at further distinguishing between different types of entrepreneurs, to study whether return migration influences the quality of entrepreneurship, namely through job creation and capacity enhancement via investment.

The results for the probability of employment are shown in table 6. The OLS specification presents a positive relation between having a returnee in the household and job creation, which is again not significant. In the 2SLS specification the sign of the relation is confirmed, this time significant at a 5% level. Thus, the result suggests that businesses in households with a returnee are 19.3% more likely to create jobs than in households without returnees.

As for the suitability of the instruments, the results are similar to the ones in table 5.

The first condition regarding the relevance of the instruments is likely to be met. Both instruments are individually highly significant when explaining the endogenous variable and the null hypothesis that the equation is under-identified is rejected with an associated p-value of 0.019. Moreover, regarding weak identification, the first stage F is of 20.87 (not reported) and the K-P F statistic of 14.909 is greater than the Stock and Yogo (2005) critical value for a 15% maximal IV size. Lastly, the Hansen test for over-identification restriction presents a p-value of 0.715, not leading to the rejection of the null hypothesis under which instruments are compatible.

Next, table 7 and table 9 report the estimation outputs for the probability of initial investment and investment in equipment, respectively. The results concerning the impact of return migration for these estimations are in line with the previous findings.



Table 7: Probability of Initial Investment, OLS and IV Estimates

	(1) OLS	(2) 1 <sup>st</sup> stage 2SLS	(3) 2 <sup>nd</sup> stage 2SLS
Return migrant	0.016 (0.016)		0.193* (0.101)
Migration duration	-0.000 (0.002)	0.029*** (0.006)	-0.005 (0.004)
Remittances received	-0.011 (0.008)	0.047* (0.025)	-0.021** (0.010)
Household max. educ	0.001 (0.002)	-0.004 (0.003)	0.001 (0.002)
Household head age	-0.000 (0.000)	0.005*** (0.001)	-0.001* (0.001)
Foreign studies	-0.064** (0.027)	0.741*** (0.078)	-0.193** (0.078)
Household size	-0.001 (0.004)	-0.002 (0.003)	-0.001 (0.004)
Car ownership	0.052 (0.034)	0.083** (0.035)	0.039 (0.031)
Property	-0.003 (0.022)	-0.001 (0.026)	-0.003 (0.022)
Credit constrained	0.104 (0.118)	-0.056* (0.032)	0.111 (0.119)
South	0.049*** (0.015)	0.008 (0.023)	0.046*** (0.016)
Urban	0.042* (0.022)	0.032 (0.024)	0.041* (0.022)
Average expenditure	-0.201 (0.203)	-0.242 (0.271)	-0.173 (0.201)
Migrantion networks		0.375*** (0.061)	
ER IV - composite		0.221** (0.106)	
Constant	0.016 (0.047)		
Observations	875	875	875
Under Ident (P-value)			0.011
Weak Ident (K-P F)			18.926
Hansen J (P-value)			0.311

Robust standard errors in parentheses, clustered at EA level

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ 

Note: Additional partialled out controls

Table 8: Probability of Equipment Investment, OLS and IV Estimates

	(1) OLS	(2) 1 <sup>st</sup> stage 2SLS	(3) 2 <sup>nd</sup> stage 2SLS
Return migrant	0.013 (0.013)		0.124** (0.058)
Migration duration	-0.001 (0.001)	0.028*** (0.006)	-0.004* (0.002)
Remittances received	0.001 (0.005)	0.054** (0.026)	-0.006 (0.007)
Household max. educ	0.001 (0.001)	-0.005* (0.003)	0.001 (0.001)
Household head age	-0.000 (0.000)	0.005*** (0.001)	-0.001 (0.000)
Foreign studies	-0.045* (0.023)	0.746*** (0.079)	-0.127*** (0.049)
Household size	0.001 (0.002)	-0.001 (0.003)	0.001 (0.002)
Car ownership	0.047* (0.025)	0.074* (0.037)	0.040* (0.022)
Property	-0.007 (0.011)	0.003 (0.025)	-0.007 (0.012)
Credit constrained	0.132 (0.119)	-0.044 (0.035)	0.136 (0.118)
South	0.029** (0.012)	0.004 (0.024)	0.028** (0.011)
Urban	0.030* (0.015)	0.037 (0.025)	0.029** (0.014)
Average expenditure	-0.107 (0.131)	-0.384 (0.245)	-0.074 (0.122)
Migrantion networks		0.420*** (0.072)	
ER IV - composite		0.233** (0.110)	
Constant	-0.011 (0.029)		
Observations	832	832	832
Under Ident (P-value)			0.018
Weak Ident (K-P F)			16.886
Hansen J (P-value)			0.982

Robust standard errors in parentheses, clustered at EA level

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$ 

Note: Additional partialled out controls

For both dependent variables the OLS estimates of return migration are also positive but not statistically significant. The 2SLS specification suggests that return migration impact positively both initial investment and investment in equipment, the latter being significant at 5% level, while the former only at 10%. In result, it is estimated that return migration increases the probability of incurring in an initial investment in 19.3%, and of investing in equipment in 12.4%.

The tests for the suitability of the instruments are in every terms in line with the previous analyzes, providing evidences for their appropriateness. In both estimations the instruments are individually highly significant in the first stage, with under-identification being rejected at 0.011 and 0.018 level. The first stage F statistics are of 18.74 and 20.36 (not reported), while the K-P F statistics are of 18.926 and 16.886. Therefore, it is suggested that the instruments are relevant and not weakly correlated with the endogenous variable. Besides, both Hansen tests do not reject the null hypothesis where instruments are compatible, presenting the p-values of 0.311 and 0.982.

In addition, there are other interesting findings in the 2SLS specification one will now explore. First, residing in the south is positively related with most of the dependent variables. This is not surprising as the southern regions of Cape Verde are economically more active. For example, household residing at the south are 4.6% more likely to own a business and to invest in it than households living in the north, other factors hold fixed. With the same reasoning, residing in urban areas also tends to be positively related with the business skills variables.

Besides, somewhat more unexpectedly, receiving remittances is negatively

related with business ownership and with incurring in an initial investment, with statistically significant estimates at 1% and 5% level. It is also negatively related with the other dependent variables but without statistical significance. Likewise, it is also curious to see that the variable denoting that an household is credit constrained does not seem to be relevant in any specification, neither property ownership.

In regard to the effects of schooling, these appear to be contradictory. While the maximum education level is positively related with all dependent variables and highly significant in explaining job creation, having a member with foreign studies has a negative impact, highly significant to explain both types of investment.

Another interesting result is the relation between migration duration and all the dependent variables. It is clear that the explored business skills variables are associated with shorter periods abroad. Unambiguously, migration duration is negatively related with all the dependent variables, and except for the probability of initial investment all the other specifications present statistically significant results.

Lastly, a final variable showing relevance under some specification is car ownership. Households possessing a car are 3.4% more likely to be job creators than households without, all other factors fixed. This result is significant at 5% level. Besides, at 10% significance level, car owners are also 4% more likely to invest in equipment.

To complement this analysis, a panoply of dependent variables were tested in order to assess other possible channels through which return migration may eventually be affecting entrepreneurship, as demographic variables, schooling

and asset ownership. From the variables that were tested only one has shown to be explained by return migration with a statistically significant result. Using the same set of instruments, return migration has impacted positively the ownership of land, which is comprised in the property ownership variable from the previous analysis. This complementary result is shown in appendix 2. In this case the estimate is larger than 1, which is one of the shortcomings from not using ivprobit. Still, the result of interest for this analysis was mainly the sign of the effect.

In all specifications that were used, additional control variables addressing the source of finance and migration destination were partialled out. Otherwise, due to being dummy variables mostly with zeros, the estimated covariance matrix of moment conditions was not of full rank, so over-identification statistics were not reported, and standard errors as well as model tests were less conservative. Additionally, the computed standard errors are robust and were clustered by EA in order to account for some potential correlation at regional level. As such, the presented results are more conservative. Finally, the reason for the different number of observations is due to two reasons. First, two types of observations had to be dropped in order to use the second instrument. The cases where the household head is younger than 35, and the households where the head is too old, such that there is no available exchange rates data for the year when he or she turned 35. Second, the different dependent variables have diverse missing values with different conjugations with the dropped observations due to the second instrument.

### **3 Final Remarks**

In this section one will interpret the results presented in section 2.3, explaining how they relate with the current literature of the effects of return migration on entrepreneurship. Besides, a few direct consequences will be derived from the findings of this research, and possible policy recommendations will be proposed.

#### **3.1 Discussion**

One interesting factor to study within the used framework is the sign of the self-selection. As it was explained in section 2.1.1 the self-selection may be positive in the case where individuals who are, for example, more risk-takers and ambitious have higher odds of both migrating and opening a business. It may also be negative if individuals who are, as an example, less able have more difficulties to find a job, so in answer to that they migrate and/or open a business. In this research, the confidence interval for the OLS estimates of the probability of being an entrepreneur are significantly lower than the 2SLS's. This suggests that a negative self-selection is taking place, which is the same finding as in Batista et al. (2012b). However, in this case, the OLS estimates are not statistically significant, which makes the analysis of the self-selection less reliable.

In general, the technique and variables explored in this research suggest that a migration experience influences, in fact, the decision to become an entrepreneur back home, as well as the quality of entrepreneurship. Therefore, regarding the probability of becoming an entrepreneur, this research findings

are in the same line of the previous literature that use different methods as Wahba and Zenou (2009). In the case of Batista et al. (2012b) that also focused on controlling for outward and inward migration selection, the authors find that having a return migrant in the household results in a 25% – 27% higher probability of owning a business. In this analysis the same estimate is of 36.8%. The latter is only somewhat higher, so the findings are pointing in the same direction. Potential differences may accrue to Cape Verde’s idiosyncrasies as well as to the fact that, in opposition to this research, Batista et al. (2012b) tells a predominantly south-south migration story.

Regarding the quality of entrepreneurship, despite using different methods and exploring different variables, the current research is also in line with the findings of previous studies. In fact, Piracha and Vadean (2010) conclude that returnees are more likely to be formal entrepreneurs than forced, De Vreyer et al. (2010) find business owning returnees to generate more added-value, and Marchetta (2012) that their businesses last longer. Likewise, this analysis suggests that return migration influences positively the odds of generating more employment and investment in initial capital and equipment, thus making a stronger contribution to the economy.

As mention in section 2.3, the effects of schooling are somewhat contradictory. While the maximum education level tends to have a positive impact, having a member with foreign studies appears to have the opposite effect. Notwithstanding, as in Cape Verde foreign studies are more likely to be related with university education, this finding may be pointing to the fact that superior education is not a critical factor for opening a business. With this type of qualifications individuals are possibly opting to access secure and well

paying jobs in public administration or other institutions. Indeed, as claimed in Le (1999), the skills that make entrepreneurs successful are unlikely to be the same as those embodied in high levels of formal qualifications. Besides, at the margin, education increases the value of paid employment, which can make entrepreneurship relatively less attractive to the highly educated.

Finally, it is also interesting to relate the finding regarding migration duration with previous results. One found that migration duration is negatively related with the explored dependent variables, as it was the case in Dustmann and Kirchkamp (2002). Arguably, when conciliated with the objective of opening a business back home, the migration experience will be shorter, as the migrant may be highly focused in rapidly acquiring the needed skills, capital and networks to explore potential opportunities.

## **3.2 Conclusion**

In this research one aimed at contributing to the literature of return migration, namely its effects on entrepreneurship. An unique data-set from Cape Verde was explored, which allowed to differentiate forced from formal entrepreneurs. Besides, an IV approach was used in order to address both outward and inward self-selection effects present in the migration experience.

Business creation is an important source of employment and capacity for an economy, as well as of competition and innovation. However, majority of the entrepreneurs in developing countries are forced into that occupation, owning businesses which required no investment at all and with no employees. Despite important for poverty reduction, the predominance of this type of business ownership does not add so much value as formal entrepreneurship



and make it more difficult to screen the quality of the existing entrepreneurs.

The main results of this study indicate that return migration does indeed foster business creation, and may be a relevant source of formal entrepreneurs who may generate more value by creating jobs and investing in scaling their businesses. Returnees are 36.8% more likely to open a business and have 19.5% more probability of creating employment positions. Besides, the odds of pursuing an initial investment and investing in equipments are, respectively, 19.3% and 12.4% higher. Migration is thus affecting business skills, being an important contribution to economic development.

A direct implication of these findings concerns the maintenance of entrepreneurs. Given the high levels of entrepreneurship in developing countries, it may be difficult to find the entrepreneurs who are more likely to contribute more to the economy and to provide them support to do so. Therefore this result is relevant for financial institutions, NGOs and public agencies, in order to being abler to distinguishing different types of entrepreneurs. For example, this information may shape the conditions how financial institutions fund entrepreneurs in mutually beneficial ways, as for the same level of business risk, idiosyncratic hazard is likely to be lower for business owning returnees. Also, for NGOs of the type of Technoserve, Grassroots or Acumen, these results may help them to further screen the entrepreneurs they back-up. These organizations, in opposition to normal microfinance institutions, are focused in generating the highest possible social value by selectively choosing the most promising entrepreneurs, hence they need more information to perform the initial screening. As for public authorities, it may be interesting to listen to entrepreneurs with a migration experience. The obstacles they

may report and the knowledge they have from foreign regulatory processes may contribute to further improve regulation back home.

Another line of conclusions is related with migration policy. This information should influence how sending countries view migration, as the negative effects of the skilled individuals drain may be compensated with the future gain of better entrepreneurs. The contribution should go beyond the level of how migration is restraint/incentivized, but to further improve or create structures that provide current migrants with opportunities and conditions to return. It should also impact how host countries coordinate their reception policies with developmental actions. The findings of this research suggest that these countries should give further emphasis to temporary migration programs as grating temporary work visas, because these are likely to be mutually beneficial. Furthermore, a special attention and support should be given to current migrants who wish to return, but face several constraints.

Finally, these findings may additionally impact how donor countries design their aid policies. One common argument for donation is to compensate for the drain of brains and of capable individuals in developing countries. Besides remittances and increased human capital of stayers (brain gain effect), the results of this research show another beneficial outcome that offsets the short-term loss of skilled individuals. Nevertheless, it is important to take into account the temporal dimension of the losses and benefits. While the loss takes place in the short-run, the benefit of having better entrepreneurs is a long-run gain. As a result, solely from this effect, donation still has a role in lessening the short-term loss, avoiding the persistent harmful effects of not having those individuals directly contributing to the economy.

## 4 Bibliography

- Acs, Z. J., Audretsch, D. B., 1990. Innovation and small firms. Mit Press.
- Akee, R., 2010. Who leaves? deciphering immigrant self-selection from a developing country. *Economic Development and Cultural Change* 58 (2), 323–344.
- Arrow, K., 1962. Economic welfare and the allocation of resources for invention. In: *The rate and direction of inventive activity: Economic and social factors*. Nber, pp. 609–626.
- Audretsch, D. B., 1995. Innovation and industry evolution. Mit Press.
- Banerjee, A., Banerjee, A. V., Duflo, E., 2011. Poor economics: A radical rethinking of the way to fight global poverty. PublicAffairs.
- Batista, C., Lacuesta, A., Vicente, P. C., 2012a. Testing the brain gain hypothesis: Micro evidence from cape verde. *Journal of Development Economics* 97 (1), 32–45.
- Batista, C., McIndoe-Calder, T., Vicente, P. C., 2012b. Return migration and entrepreneurship in mozambique. Trinity College, Dublin.
- Batista, C., Umblijs, J., 2013. Migration, risk attitudes, and entrepreneurship: Evidence from a representative immigrant survey. Tech. rep., IZA Discussion Paper.
- Batista, C., Vicente, P. C., 2011. Do migrants improve governance at home? evidence from a voting experiment. *The World Bank Economic Review*, lhr009.

- Baumol, W. J., 2004. Entrepreneurial enterprises, large established firms and other components of the free-market growth machine. *Small Business Economics* 23 (1), 9–21.
- Baumol, W. J., Litan, R. E., Schramm, C. J., 2007. Good capitalism, bad capitalism, and the economics of growth and prosperity. Yale University Press.
- Baumol, W. J., Panzar, J. C., Willig, R. D., Bailey, E. E., 1982. Contestable markets and the theory of industry structure.
- Bennett, J., 2010. Informal firms in developing countries: entrepreneurial stepping stone or consolation prize? *Small Business Economics* 34 (1), 53–63.
- Berner, E., Gomez, G., Knorringa, P., 2012. helping a large number of people become a little less poor: The logic of survival entrepreneurs. *European Journal of Development Research* 24 (3), 382–396.
- Boeri, T., Cramer, U., 1992. Employment growth, incumbents and entrants: evidence from germany. *International Journal of Industrial Organization* 10 (4), 545–565.
- Borjas, G. J., 1986. The self-employment experience of immigrants.
- Carreira, A., Fyfe, C., 1982. The people of the Cape Verde Islands: exploitation and emigration. London England C. Hurst 1982.
- Country-Watch, 2013. Cape verde country overview.  
URL [www.countrywatch.com](http://www.countrywatch.com)

- De Vreyer, P., Gubert, F., Robilliard, A.-S., 2010. Are there returns to migration experience? an empirical analysis using data on return migrants and non-migrants in west africa. *Annals of Economics and Statistics/Annales d'Économie et de Statistique*, 307–328.
- Docquier, F., Lowell, B. L., Marfouk, A., et al., 2008. A gendered assessment of the brain drain. No. 3235. World Bank Publications.
- Docquier, F., Rapoport, H., 2012. Globalization, brain drain, and development. *Journal of Economic Literature* 50 (3), 681–730.
- Dustmann, C., Kirchkamp, O., 2002. The optimal migration duration and activity choice after re-migration. *Journal of Development Economics* 67 (2), 351–372.
- Fritsch, M., 2008. How does new business formation affect regional development? introduction to the special issue. *Small Business Economics* 30 (1), 1–14.
- Gibson, J., McKenzie, D., Stillman, S., 2009. The importance of selectivity and duration-dependent heterogeneity when estimating the impact of emigration on incomes and poverty in sending areas: evidence from the samoan quota migration lottery. In: *Second International Conference on Migration and Development*, Washington DC, Sept. pp. 10–11.
- Heckman, J. J., Robb Jr, R., 1985. Alternative methods for evaluating the impact of interventions: An overview. *journal of Econometrics* 30 (1), 239–267.

- Hessels, J., Van Gelderen, M., Thurik, R., 2008. Entrepreneurial aspirations, motivations, and their drivers. *Small Business Economics* 31 (3), 323–339.
- Imbens, G. W., Angrist, J. D., 1994. Identification and estimation of local average treatment effects. *Econometrica: Journal of the Econometric Society*, 467–475.
- Le, A. T., 1999. Empirical studies of self-employment. *Journal of Economic surveys* 13 (4), 381–416.
- Leff, N. H., 1979. Entrepreneurship and economic development: the problem revisited. *Journal of economic literature*, 46–64.
- Lewis, W. A., 1955. *Theory of economic growth*. Unwin Hyman.
- Li, D. D., Feng, J., Jiang, H., 2006. Institutional entrepreneurs. *The American economic review*, 358–362.
- Lofstrom, M., 2004. *Labor market assimilation and the self-employment decision of immigrant entrepreneurs*. Springer.
- Marchetta, F., 2012. Return migration and the survival of entrepreneurial activities in egypt. *World Development* 40 (10), 1999–2013.
- Massey, D. S., 1990. Social structure, household strategies, and the cumulative causation of migration. *Population index*, 3–26.
- McKenzie, D., Rapoport, H., 2010. Self-selection patterns in mexico-us migration: the role of migration networks. *The Review of Economics and Statistics* 92 (4), 811–821.

- McKenzie, D., Stillman, S., Gibson, J., 2010. How important is selection? experimental vs. non-experimental measures of the income gains from migration. *Journal of the European Economic Association* 8 (4), 913–945.
- McKenzie, D., Theoharides, C., Yang, D., 2014. Distortions in the international migrant labor market: Evidence from filipino migration and wage responses to destination country economic shocks. *American Economic Journal: Applied Economics* 6 (2), 49–75.
- Mesnard, A., 2004. Temporary migration and capital market imperfections. *Oxford Economic Papers* 56 (2), 242–262.
- Munshi, K., 2003. Networks in the modern economy: Mexican migrants in the us labor market. *The Quarterly Journal of Economics*, 549–599.
- Naudé, W., 2011. Entrepreneurship is not a binding constraint on growth and development in the poorest countries. *World Development* 39 (1), 33–44.
- Parker, S. C., 2009. *The economics of entrepreneurship*. Cambridge University Press.
- Piracha, M., Vadean, F., 2010. Return migration and occupational choice: Evidence from albania. *World Development* 38 (8), 1141–1155.
- Schuetze, H. J., Antecol, H., 2007. Immigration, entrepreneurship and the venture start-up process. In: *The Life Cycle of Entrepreneurial Ventures*. Springer, pp. 107–135.
- Schumpeter, J., 1942. Creative destruction. *Capitalism, socialism and democracy*.

- Stock, J. H., Yogo, M., 2005. Testing for weak instruments in linear iv regression. Identification and inference for econometric models: Essays in honor of Thomas Rothenberg 1.
- Tamvada, J. P., 2010. Entrepreneurship and welfare. Small Business Economics 34 (1), 65–79.
- Vicente, P. C., 2010. Does oil corrupt? evidence from a natural experiment in west africa. Journal of Development Economics 92 (1), 28–38.
- Wahba, J., Zenou, Y., 2005. Density, social networks and job search methods: theory and application to egypt. Journal of Development Economics 78 (2), 443–473.
- Wahba, J., Zenou, Y., 2009. Out of sight, out of mind: Migration, entrepreneurship and social capital. Tech. rep., CEPR Discussion Papers.
- WBCSD, SNV, 2007. Promoting small and medium enterprises for sustainable development. Development Focus Area I Issue Brief 978-3-940388-07-0.
- Wennekers, S., Thurik, R., 1999. Linking entrepreneurship and economic growth. Small business economics 13 (1), 27–56.
- Yang, D., 2008. International migration, remittances and household investment: Evidence from philippine migrants exchange rate shocks. The Economic Journal 118 (528), 591–630.



## 5 Appendixes

### Appendix 1

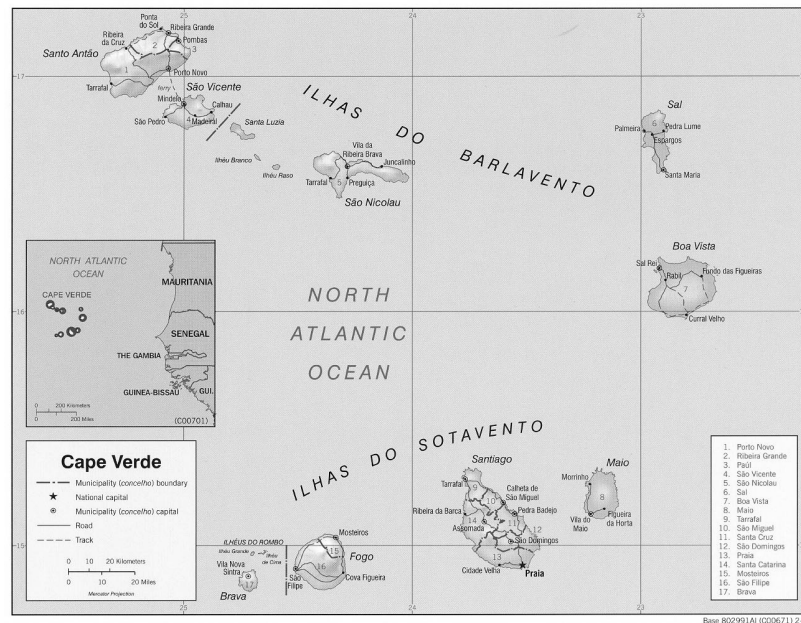


Figure 1: Map of Cape Verde (source: Geographic Guide)

## Appendix 2

Table 9: Probability of Owning Land, OLS and IV Estimates

	(1) OLS	(2) 1 <sup>st</sup> stage 2SLS	(3) 2 <sup>nd</sup> stage 2SLS
Return migrant	0.071 (0.052)		1.666*** (0.613)
Migration duration	-0.002 (0.003)	0.029*** (0.005)	-0.050** (0.021)
Remittances received	0.031 (0.035)	0.054** (0.024)	-0.065 (0.065)
Household max. educ	-0.001 (0.005)	-0.005* (0.003)	0.006 (0.006)
Household head age	0.003** (0.001)	0.005*** (0.001)	-0.004 (0.003)
Foreign studies	0.109 (0.100)	0.709*** (0.072)	-1.016** (0.487)
Household size	-0.011** (0.005)	-0.001 (0.003)	-0.007 (0.005)
Car ownership	0.139*** (0.046)	0.090** (0.036)	0.006 (0.077)
Credit constrained	0.127 (0.200)	-0.066** (0.032)	0.205 (0.202)
South	0.016 (0.050)	-0.002 (0.023)	0.008 (0.050)
Urban	-0.149*** (0.049)	0.023 (0.024)	-0.155*** (0.055)
Average expenditure	-1.056* (0.577)	-0.091 (0.245)	-0.991 (0.607)
Invest with remittances $\psi$	-0.021 (0.195)		
Invest with savings $\psi$	0.082 (0.192)		
Invest with credit $\psi$	0.085 (0.113)		
Destination USA	0.003 (0.098)		
Migrantion networks		0.346*** (0.059)	
ER IV - composite		0.252** (0.104)	
Constant	0.319*** (0.082)		
Observations	942	942	942
Under Ident (P-value)			0.012
Weak Ident (K-P F)			17.182
Hansen J (P-value)			0.535

Robust standard errors in parentheses, clustered at EA level

\*  $p < 0.10$ , \*\*  $p < 0.05$ , \*\*\*  $p < 0.01$

Note: Additional partialled out controls